NEGLECTED ASPECTS OF CURRENCY AND BANKING

By Frederick A. Cleveland, Ph. D.,
Author of "The Bank and the Treasury."

When in the early months of 1902, Mr. Shaw took the treasury portfolio, the country was passing through a period of marvelous financial activity. Four years of commercial and industrial consolidation, four years of trading in new corporate issues, "on margin," had absorbed hundreds of millions of banking capital in speculation. Moreover, this incumbering of current funds had taken place at a time when commercial and industrial expansion was multiplying its demands on our banks for credit accommodation. True, on May 9, 1901, an unexpected corner in Northern Pacific had brought speculation to a temporary standstill. But the quiet which followed had been utilized by the large banking interests to get together needed financial support with which to launch United States Steel and other new gigantic promotions. From two to three thousand millions of new issues had to be digested and assimilated by the investing public before our institutions of commercial credit could sufficiently relieve themselves from speculators' loans to meet the growing demands of trade.

After 1898 the financial situation was at all times pregnant with danger to business. So large was the proportion of new flotations carried on bank credit, that in the early months of 1902 conservative financiers became alarmed; serious question was raised as to what the outcome would be. The fear expressed was that the banking capital of the country was overloaded with credit obligations of a most dangerous sort. Within six years the national banks had increased their demand obligations to individual depositors more than $1,600,000,000, while during the same period their capital, both subscribed and earned, had increased only $135,000,000. That is to say, for every additional dollar put into the national banking business during this period, twelve dollars of credit in the form of new deposit accounts had been issued against it.

At the time that the national banks were thus extending their credit obligations similar expansion was taking place in the deposit obligations of state banks, private banks and trust companies. They

had increased their demand credit over $2,000,000,000 while the new capital added to the business was only $235,000,000, making a total expansion in deposit accounts of $3,600,000,000 with a total increase in capital of $370,000,000. The amount of credit expansion in bank accounts alone—*i. e.,* expansion in the form of cash with which business is done—was equal to about two and one-half times the total money circulation of the country outside of the reporting banks, while the total increase in banking capital was only about one-seventh of the money stock of the nation.

To the end of aiding the banks to meet increasing money demands, Secretary Gage had used the customary methods of relief. He had refunded the bonded debt on a lower investment basis; he had made numerous purchases of bonds for retirement; he had made interest payments in advance; he had added to the relief thus given by loaning to the banks some eighty millions of dollars, in the form of revenue deposits. Such was the situation when Mr. Shaw came to the cabinet.

The Credit Climax of 1902

Within the next few months pressure on the banks was something extraordinary. The climax was reached in September and October. Then it was that Mr. Shaw broke away from all precedents and issued his famous order that savings-bank investments be received as security collateral to additional revenue deposits. This first order was soon followed by another which relieved the banks from the necessity of holding a 25 per cent reserve against the secured deposits of the government. The effect of these two orders was to increase loans of the government to the banks from $113,000,000 to $166,000,000—producing a temporary result in financial circles much the same as if $50,000,000 of new capital had suddenly been added to the banking business.

During 1903 the financial stress of 1902 was gradually reduced. By concerted action of banks, by the continued aid of the government, by the imposition of high interest rates on bank accommodations and by demands for added collateral to margins forcing liquidation, the over-encumbered capital of banks in financial centers was again somewhat relieved. These acts of conservatism were followed by months of wholesome trading during which time speculation played the smaller part.

The latter part of 1904 and the years 1905 and 1906 were another period of dangerous credit expansion. During 1904 clearing-house transactions of the United States amounted to \$102,000,000,000.00. The clearings for 1905 were \$140,000,000,000.00. In the year 1906 they reached \$157,000,000,000.00. December, 1906, was a month of high tension at the financial center to relieve which call-money sales were advanced to 36 per cent; the average of call rates for the month was about 14 per cent; third-day money commanded from 9 per cent to 15 per cent. During a few days of the January following, as high as 50 per cent was paid for call money. This was followed by two months of comparative quiet. In March, 1907, however, speculative trading and holdings on margin had again reached such proportions, that in efforts to protect themselves, the banks were forced to call and in a single day the market price of securities dropped from five to twenty points. General prosperity and prompt relief from Washington alone saved our commercial and industrial institutions from distress similar to that recently experienced through the sudden contraction of bank credit.

It was during this period, of rapidly increasing business activity and rapidly expanding bank credit and in anticipation of a sudden need for increased support to bank-credit obligations, that Secretary Shaw rendered another signal service to the country. He saw the approaching storm and prepared for it by getting the treasury in condition to come to the rescue of the country when the banks would be unable to meet obligations for payment without wholesale reduction of credit accommodation. In the first place payment on the Panama Canal purchase was made by withdrawal of the deposits of the government, diminishing by this amount the demand loans of the treasury to the banks and the consequent inducement to banking extravagance. After making the Panama settlement—to provide for which a 20 per cent call had been made—the treasury deposits were about the same as when Mr. Shaw had been appointed to the cabinet three years before. Further than this the Secretary gave notice to the banks that a call would be made, first, for 25 per cent and later for 50 per cent of the balance of government deposits, and although these demands were not enforced to the letter, by November, 1906, the demand obligations of the banks to the government were reduced to \$50,000,000. Thus it

was that, by the time the banks in financial centers had again reached the danger point of credit expansion, Mr. Shaw was able to come to the support of the money market; and during the year 1906 and the early months of 1907, an added one hundred and twenty million of dollars in the form of additional deposits were loaned to the banks without embarrassing the treasury, enabling them to maintain their money reserves without seriously contracting business accommodations.

After the immediate need for collateral supports to the banks had passed, Secretary Cortelyou announced that he would follow the same general policy as had been pursued by his predecessor. But during the months from May to November the demand of the banks for money with which to maintain their reserves constantly increased. Protests were made against reducing the treasury balances that had been loaned to the banks to tide things over the stress which came earlier in the year.

Yielding to these importunities was a serious mistake. Instead of calling attention to the present capital weakness of the banks, the government permitted them to continue to use the large treasury balance without interest. The banks found that it was not necessary to increase their own capitalization; in fact, the government held out an inducement not to increase their capital, since the present stockholders were able to increase their income by the amount of the credit expansion supported by the treasury balance without being required to share the increased profit with new stockholders. Not only were the banks themselves weakened by continuing aid, but the government was placed in a position where it could not lend a strong helping hand in future emergencies.

The October and November Panic

When in October and November, 1907, panic days again were reached, the government at Washington could not respond with the liberality required. In May the $170,000,000 point had been reached. August 22 the amount had been reduced to $143,000,000. August 23 Secretary Cortelyou began increasing treasury deposits with banks. November 11 $70,000,000 had been added to the deposits, and during the month following practically the whole available surplus of the treasury had been loaned to the banks. But even this did not suffice to support the weight of obligations

that had been permitted to accumulate on the crumbling foundations of the banking institutions of the country.

The alternative to the banks was to force a violent credit contraction. The essential weakness, a first cause of credit collapse, is found in the changed relations of credit outstanding to capital supporting it. In 1897 the proportion of national-bank capital to individual deposit obligations had been as 1 to 2.93; in 1906 their proportions reached 1 to 5.03. In 1897 the proportion of national capital surplus and undivided profits to individual deposit obligations was as 1 to 1.92; in 1906 this proportion reached 1 to 2.79; in 1897 the proportion of money reserves held by national banks to individual deposit obligations was as 1 to 5.35; in 1906, even counting all the money borrowed by the banks from the government and from state and private banks and trust companies, this proportion had reached 1 to 6.71.

The institutions chartered by the government to supply credit accommodations to the business public had been permitted to grow top heavy. Worse than this: Not only was it permitted that they issue a dangerous proportion of demand credit to capital and money supporting it, but the character of commercial assets purchased by the banks by means of this credit was even more dangerous—a large part of the demand credit having been issued in exchange for paper secured by collateral which had been purchased "on margin," the market price of which was gradually depreciating. As fast as speculation prices depreciated the demands of bankers for additional collaterals became more tense. The net result was to force sales and to still further depress the market. When speculators reached their limit they made special pleas to the banks for "time," till the market might change.

The Capital Weakness of the Banking System Revealed by Commercial Demands from the Interior

The increasing demands from the commercial and industrial constituency of the vast interior forced the issue. When the country banks began to call the loans which they had made to the reserve banks, when the reserve banks, in turn, were forced to call their loans to the great central reserve banks that had used these loans for money reserves with which to support the credit accommodations to speculators, then it was that the mutual props in the

form of "legal reserves" began to give way and the whole business constituency which depended on bank credit for "cash" was thrown into a condition of distress. The resulting condition is what Mr. Ridgely refers to as the loss of confidence of banks in each other. To save themselves the central reserve city bank had to issue clearing-house certificates, which is another name for the suspension of specie payment. This protective measure of the central reserve banks forced the banks the country over to adopt the same expedient. Mutual obligations within each community were settled by means of clearing-house paper.

Relief finally came in the only way possible—through added capitalization. This capitalization, however, was only temporarily supplied. It was furnished by a syndicate of which the house of Morgan & Co. was the head. The government also added all of its remaining surplus available. A broader basis for credit liquidation was established through the importation of approximately $65,000,000 in gold, a large part of which was procured by means of this new temporary capitalization furnished by the syndicate. But the reduction of the demand credit used as "cash" in commerce and industry was far greater than any possibility either of importation or money issue could supply—a contraction of the credit circulating medium which resulted in reduction in prices, temporary receiverships and wholesale stagnation of business. Never has there been a more tragic financial situation. Only the general prosperity of the commercial and industrial world saved us from the worst of business calamities.

By the end of the year 1907 the credit stress was in a measure abated. This was in part due to importation and in part due to the largely decreased business demands, resulting from receiverships and liquidations, forced on by the sudden withdrawal of hundreds of millions of dollars of banking accommodations which had been previously extended to legitimate enterprises. The remedy applied was drastic, wrecking the fortunes of thousands of persons engaged in useful employment. But the fundamental weakness of the system still remains to be dealt with. If collapse may come at a future time less prosperous than the present, failing credit may work still greater havoc.

Dangers in the Present Readjustment

The present readjustment is essentially a dangerous one. Not only is the added capital a temporary support, but in its method of application dangerous. Practically the whole treasury surplus is tied up in the settlement. January 1, 1908, the banks were owing to the United States Treasury, either in the form of direct loans or as deposits of disbursing officers, about $256,000,000.00. A part of this the government needs at once to meet its current expenses. By a continued policy of loaning the treasury surplus to the banks without interest, by permitting the banks to retain a large part of the loan as money reserves for the support of obligations to depositors during time of credit expansion, by permitting the banks to find relief in added loans from the treasury and in a temporary syndicate a plan of reorganization is accepted which does not take care of the large floating debt and which does not provide adequate working capital. Another element of weakness is found in the fact that while the syndicate loans have a high rate of interest, the loans of the government are without interest. The syndicate loans, therefore, will be paid as rapidly as possible while the government will be further importuned not to reduce its balances.

In case it may happen that the country banks may again loan their reserves to the reserve banks, and the reserve banks may loan their reserves to the central reserve banks in sufficient amount, then the government may again be able gradually to call its loans. But with the first considerable pressure brought to bear on the system, the experiences of last May and of last November will be repeated. We may expect to suffer from alternating expansion and contraction, the one dangerous as a cause, the other dangerous as an effect, so long as the banks rely on borrowed money for their reserves. We may not expect the government to be in a position to protect the country against the unbalancing effects of sudden contractions so long as it places itself in the attitude of permitting the banks permanently to use the government surplus in lieu of adequate capitalization.

The government is now in a position such that one of three courses is open to it: (1) It may demand payment of loans to the banks with the possibility of disrupting the whole fabric of private credit based on the present reserve, (2) it may permit the

banks to use its fund without interest and borrow money at interest with which to meet its own current expenses, (3) it may, by charges of high rates of interest to the banks for loans in the form of deposit and bank notes issued on collaterals deposited, force the banks to add sufficient *permanent* capital to their business to enable them to meet all their present *emergency* capital obligations and at the same time insure the safety and stability of their own credit accounts. In this situation President Roosevelt has appealed to Congress urging that the last of the three courses be taken. His specific recommendation, however, is confined to note issues. It remains for someone in authority to seriously propose a measure which will effectively apply the same regulative principle to the loans of the government to the banks in the form of "deposits."

Within the first six weeks of the present Congress several bills were introduced which provide for an interest charge on these loans. In the House, Mr. Fowler (H. R. 12,677) and Mr. Keifer (H. R. 208) propose that banks be required to pay two per cent on government deposits. That such a measure would prove ineffective to cause banks to return government "deposits" after an emergency were past is amply proved by some forty years of experience with reserve loans. At such a rate banks have never been known to return reserve deposits until "called." In the Senate two bills have been introduced which aim to make "deposits" emergency loans, but whose defects are apparent. Senator Culberson (S. 3026) would have banks pay two per cent from August 1st to November 30th, four per cent from December 1st to March 31st, and six per cent from April 1st to July 31st each year. This proposal assumes that money demands and credit disturbances regularly follow the seasons, an assumption which might do much to produce expansion and contraction at the wrong time. The banker is in the best position to know when money demands are such that he can afford to pay six per cent for government loans, and these are times when the credit circulation should be increased or when more money is needed to support that already outstanding. Senator Platt's measure (S. 108) would make the rate discretionary. This might prove effective and without public danger if a minimum of about six per cent were established to insure the use of the government loans for purposes of steadying the market in time of extraordinary demand. If the banks had the opportunity of either

borrowing from the government on proper security at six per cent and the government had the option of supplying funds either in the form of gold or paper money to be issued by it, the money rate could never rise far above the established minimum. In such event there would be no limit to the possibilities of expanding credit when needed, except the limits of adequate security for the loans among prospective borrowers.

Our Hopeless Philosophy of Panics

Those who have expressed opinion concerning the cause of the recent panic use the same fatalistic philosophy as was employed centuries ago in accounting for ravages of "black death" and the scourges of small-pox and cholera. From time immemorial the same conclusions have been reached. After learned discussion those in position to command respect for knowledge of financial situations have each time announced that sudden collapses of bank credit have been due to an undefined, intangible, uncontrollable influence called "lack of confidence." Comptroller Ridgely, by process of induction, has given a new interpretation to this vague theory by asserting that the conditions which led to the panic of last October and last November were due "not to lack of confidence of the people in the banks, but more to lack of confidence of the banks in each other."

With such a diagnosis of the malady by those who are looked to professionally for the prescription of remedies, question may be raised as to whether we may ever hope to find relief from financial ills. May we hope to correct a financial disease that is diagnosed as the result of a mental attitude of persons who may not be located and specifically treated? Congress is asked to pass remedial laws. What legislation will make business safe as against "what some people may think?" How may bankers be required to conduct their business to prevent "some people" from losing confidence? Does not such an analysis suggest that the philosophy of banking is still surrounded by the ignorance and mysticism of the dark ages, and that public inquiry is still lacking in method of scientific research?

Time was when a landslide was attributed to the mental attitude of an evil one; when the breaking of a bridge or the falling of a building was considered as the inscrutable act of some great

destroying force. The remedy proposed for such calamity is similar to that at present urged to relieve business, viz., self-sacrifice and prayer as a means of restoring lost faith in an influence for good—a belief which has the power to protect the public against the intrigues of the devil. Since the days of the South Sea Bubble this same mystically vague remedy has been proposed for protection against the collapse of bank credit. Let us have confidence! Restore our faith and we shall be saved!

A Plea for a Scientific Method of Determining the Character of Banking Legislation Needed to Protect the Public from Panic

In search for causes of structural collapse we have come to apply scientific standards to judgment. Were the tower of the capitol building to show signs of weakness during a storm the government would not rest content to set up props till the storm had abated. Were a great office building of New York to fall, no one would think of the prayer of faith as protection against future evils, to be suffered from collapses of similar kind, or of importuning Omnipotence for justice to those responsible for loss of life and property. Inquest would immediately go to the character of materials and workmanship used in construction. Neither would there be mystery or fatalistic philosophy woven about legislation proposed for future safeguards to the community; nor would it be accepted as a satisfactory defense of building management that those in control had yielded to the importunities of persons wishing accommodation and as a consequence the building had been built too high or had been overcrowded, or had had a run on it that carried it and its tenants to destruction. If the structure had been used for purposes other than those approved, or if the owners had connived with officials, or if officers of the law had permitted the superstructure to be carried beyond the point of safety, if the foundation had been overloaded and had crumbled beneath the weight, or if a superstructure had been erected of such physical parts as to endanger tenants or the public, under any and all of these circumstances, tenets of scientific inquiry, premised on experience, would guide in determining responsibility for loss, as well as in the shaping of legislation for the correction of similar evils in other structures built or to be built.

In engineering and architecture, as well as in building ordin-

ances, the guiding principle is: The greatest economy in construction that is compatible with safety. Whatever the cost, foundation and materials must be of such strength and quality as to make the structure safe. In estimating the depth and breadth of foundation, or the strength of materials to be used in any part of a building, a liberal margin of safety is allowed to provide for strain greater than any that may ever be brought to bear.

Should a bridge be under contemplation, then calculations as to the load or strain would depend on the character of use. After the bridge was completed traffic regulations would be framed to protect the public from danger of overloading, and the management would be held liable for violations. Police control would also be exercised to prevent catastrophe. Much of the legislation proposed to prevent collapses of bank credit throws this kind of reasoning to the winds. The drift of opinion has been away from the theory of a coefficient of safety. The banking world is urged by public officials to make a still higher use of structural materials, *i. e.,* to make such adjustments between themselves as will permit the same capital to carry a larger load. No attempt has been made to calculate what burden a particular credit structure may bear without endangering the business public from credit contraction. The argument has been to further reduce the capital cost of banking. In estimating this no account has been taken of the cost to the community of the periodical wholesale demolitions, and the wrecking of other business which have been induced by the banks to depend on them for current funds. The banks may be safe. Yes. But what of those many business interests that have come to rely on bank credit for "cash?" There seems to be an utter blindness to the public aspects of banking; no reckoning is taken of the fact that the forced contraction of credit of even the smallest of banks may cause greater loss and suffering to a community as a whole than would the collapse of the largest of physical structures.

In the safety of a building structure the public is interested as a matter of physical protection to tenants and passers-by. Increased charges for rent, due to the capital cost required to obtain this protection, is not accepted as reason for permission to build an unsafe edifice. At any and every cost public safety is insisted upon. In the safety of a bank it is not physical safety alone that is involved. The business, the fortunes, possibly the lives, of all those

who have made arrangements for their current financial needs are directly at stake. Indirectly, a sudden contraction of bank credit to protect the bank itself from collapse may unsettle well-founded business judgments, and produce conditions which may cause business concerns, not in any manner connected with the particular institution which institutes the measure, to topple to ruin. Indirectly, the business interests of a whole community or of a nation may be affected.

Is it not worth our while to proceed in the determination of questions of banking regulation, on the theory that no capital cost is too great if it is necessary to protect the community against sudden contractions of bank credit? May not the same principle of scientific inquiry be applied to the discovery of a margin of safety to prevent collapses of credit, as has been applied to building structures? Of far greater importance to the welfare of the community is it that bank credit shall not be constricted in time of need; of far greater importance that the capital foundation shall be adequate to support every dollar of credit issued by banks, so long as this credit may be needed by the borrower; of far greater importance that a liberal margin of safety shall be required as against extraordinary strain. Would it not seem the part of wisdom for public men and public bodies to pass laws to prevent the overloading of the capital foundations of credit institutions, and over-accommodation rather than that the government shall be content to permit banks to extend their credit *ad libitum?* Is not legislation which requires a bank to do a safe business preferable to the administration of palliatives to the injured, or reliance in the ability of the treasury to prevent disaster by running to the support of toppling credit walls as a means of relieving financial institutions from the necessity of increasing the capital cost of doing business?

Elements of Certainty in the Problem of Elasticity

In this relation it is suggested that banking and credit are just as susceptible to scientific analysis as are buildings and building materials. With all the mystery that has been woven about the subject, every feature and element in the problem of elasticity of bank credit is as capable of exact determination as are the tensile strength of iron, the crushing resistance of stone, or the wind strain on an office building.

In law there is none of the mysticism about credit which is commonly assigned. Credit is an unconditional contract for the payment of money, nothing more, nothing less. So clear is the law on this point that it has been repeatedly decided that any other form of contract or transaction is not credit. In business practice there is absolutely no uncertainty about what credit is. Every business man knows that if he be creditor he can insist on the payment of the amount and kind of money contracted for, and that nothing else may be substituted except by his consent, which amounts to a new contract. If he be debtor he knows quite as well that he must obtain and deliver the money in the amount and at the time contracted for, or in default of such delivery the courts may be asked to intervene and sell his entire estate if need be to procure this money. In the common parlance of the street, credit is a "short sale" of money; this sale is governed by practically the same rules as a "short sale" of bonds or a short sale of wheat. The only alternative to "delivery" is "settlement," or the substitution of a new contract for the original contract of credit.

There is nothing mysterious about bank credit. This is a contract entered into by a banker with his customer, called a depositor, or (in case the bank may be permitted by law to issue) with the holder of the banker's note. The contract is one for the delivery of a definite amount of legal tender money on demand; if the creditor of the banker be a depositor then the evidence of the credit contract is a memorandum of account on the books of the bank and a corresponding memoranda kept by the customer in his own cash book. It is a common credit relation—there is no uncertainty about it. It is identically the same kind of a contractual relation as is a demand credit evidenced by an account on the books of a manufacturer. On discussing the question of bank credit, therefore, we may speak in exact terms without any cavil or misunderstanding.

The mysterious word "confidence" may also be resolved into exact terms. Analyzed to its constituent elements, what has been so vaguely spoken of as "confidence" may be clearly defined. In banking relations that which has been called confidence is a conclusion or judgment arrived at with respect to the value of a credit contract at the time that the contract is made, or a subsequent judgment which reflects itself in the exercise of the option under the

contract to demand payment. To illustrate: A merchant takes in $1,000.00 in legal-tender money over his counter. He carries this money to a nearby bank and exchanges it for a credit of $1,000.00, a memorandum of which is entered in his pass-book, as well as the customers' ledger of the bank. The merchant does this because, at the time he makes his "deposit," it is his best judgment that he would rather have the obligation of the bank to pay him $1,000.00 on demand than to have $1,000.00 in lawful money. If this were not his best judgment he would not have made the exchange. "Confidence" in the bank means that, for his own purposes he values $1,000.00 of unsecured credit of this particular institution more highly than he values $1,000.00 of gold coin of the United States or other currency.

The reason why the merchant has "confidence" in the bank is just as susceptible of analysis as is the definition of what constitutes "confidence." Why does he value the contract of the bank to deliver money at a future date more highly than money itself? The customary answer shows the inconclusiveness of the present method of approach. We are vaguely told that it is because the merchant has "confidence." That is to say, the merchant has "confidence" because he has "confidence," and conversely he does not have "confidence" because he does not have "confidence." Upon analysis it is found that the merchant's judgment as to the value of the bank's credit is premised on three other conclusions: (1) That "the banker is honest"—which being interpreted means that, in the opinion of the merchant, the banker will do all in his power to meet his credit contracts on demand without resort being had to the court to enforce them; (2) that, in the opinion of the merchant, the banker is conducting his business in such manner that he will be able to fulfil every promise made by him to deliver money on demand according to the terms of his contracts; (3) that, in the opinion of the merchant, all persons with whom he currently deals have, or will have, also arrived at the same conclusions as has he with respect to this particular banker.

Elements of Danger and Uncertainty

It is in facts and conditions which warrant or fail to warrant the second of these conclusions that the chief element of public danger lies. Small loss has been suffered from mistaken judgments

in arriving at the first conclusion—the honesty of bankers. Reputation for honesty is brought to a test with each transaction. A single transaction which shows dishonesty will destroy all possibility of further sales of credit—in other words, will destroy the business of the banker. Dishonesty eliminates itself from the banking business. For protection against dishonesty little or no legislation is needed. Neither can legislation be made effective with respect to the third conclusion. Legislation cannot compel a trading public to accept the credit of any particular institution or class of institutions in exchange. It is with the second conclusion only that laws may effectively deal, and in the character of dealing with this lies the whole problem of elasticity and the safety of our financial system. The conditions under which the banker is permitted to offer his credit for sale, the manner in which he shall conduct his business, the amount of capital required, the character of equipments in which his capital shall be invested, the amount of obligations to depositors that he will be permitted to incur to each dollar of capital invested in the business, the amount of minimum cash reserve required, the conditions under which he will be permitted to loan to and borrow from other banking institutions, the conditions under which he will be permitted to obtain aid from the government, the character of business to which he will be permitted to extend credit, the character of assets he will be permitted to buy in exchange for demand credit, every phase and aspect of his business which enters into the customer's judgment as to ability to pay, are subject to the most exacting regulation and critical current examination of public officers.

It is also to factors of this class that every question having reference to panics, runs, collapses of credit, credit expansion, credit contraction, and increased and decreased demand for money relates itself. These factors are also subject of record and current report and may be classified and summarized for purposes of exact determination of elements of strength and weakness, of safety and public danger. Not only may instruments of precision be used in the diagnosis, but each remedial reagent may be scientifically tested in its application.

The True Function of a Bank

Critical analysis and regulative measures must have reference to the function and purpose of the commercial bank. This factor of the problem also leaves no room for uncertainty. The business of a commercial bank is essentially the business of selling its own credit for the money and commercial paper offered in exchange for the kind of "cash" which it created. The high value set on the economy of bank credit as "cash" for use in the making of purchases and payments, has caused business men to take nearly all the money and commercial paper received by them in their own business to the bank, and to offer them in exchange for the bank's credit accounts. The check and the draft are simply the instruments by which the bank's customers demand payment, or transfer certain portions of their bank credit to others—these transfers being accepted in lieu of money. Selling stocks and bonds, underwriting the purchase and sale of corporate issues, collecting the purchase and sale of coin and bullion, are not banking. They may be incidents or accessories to the business, but any one or all of these functions may be exercised by those who have no powers to engage in the business of banking.

From the point of view of ability to pay demand obligations, money is the only equipment needed by a bank. With the question of profit eliminated the only form in which a bank need carry either capital or deposits would be legal-tender money. From the point of view of making a profit, and at the same time of conserving its money-paying ability when money is demanded, the banker seeks to keep all his capital, as well as the money received in exchange for his credit, invested in income-producing assets, which are readily converted into cash when needed. If the capital of the bank alone were held in reserve for the meeting of demands for money, the business of the bank would be to exchange its own credit for money and other cash assets, and to exchange these for commercial paper, etc., bearing an attractive rate of interest. Were the entire capital not currently needed as money reserves, then the portion not currently needed might be invested in such manner that the investments might at all times be converted into money without loss, and without waiting for maturities. So considered, the business of banking has two distinct sides, viz., a credit-trading side and an investment side.

What Amount of Capital Is Required to Make a Bank Safe

Accepting the only logical definition of capital, viz., funds or property contributed by shareholders or other proprietors, for the purpose of providing an enterprise with the resources or equipment permanently or continuously necessary to the safe and successful operation of the business, and again we are on scientific ground. Again the problem of elasticity lends itself to exact analysis. The profits of a bank as such are derived from sales of its credit. The amount of its banking profit depends on the amount of credit it can exchange for money and other cash or income-producing assets—or, to use the parlance of bankers, on the amount of its "deposits." The equipment necessary to the highest success of a bank is such an amount of money held in reserve as is necessary to meet demands for payment on all the credit which it is able to sell; or, again, to use the parlance of bankers, a money reserve large enough to meet the demands of depositors. The amount of capital needed by a bank, therefore, is such amount as is necessary to provide it with its office equipment and with an adequate money reserve. If the capital of a bank is not sufficient to do this with safety, it is under-capitalized. In such circumstances the bank would be in much the same situation as a railroad that is carrying a part of its construction on floating debt, or a manufacturer who has supplied himself with machinery by means of demand loans. If his current loans are called he must sacrifice some of his product or current business to meet them and possibly be forced to sell his plant also.

This does not mean that a bank which does not capitalize all its equipment, including its money reserves, is in danger of insolvency. A bank as well as a manufacturer may at all times be solvent, and may so conduct its business as to meet every credit obligation without a dollar of capital. If it rent its banking room and furnishings, if it invest its credit in money or other assets that may be quickly converted into money without loss, it may meet all obligations, provided the income on its loans is sufficient to pay expenses. But such a bank is in a position at any time to lose its business by being forced into liquidation. In other words, it cannot fall back on a capital fund to protect its deposit obligations, and, therefore, as was the case with many institutions in the recent panic,

it may lose its depositors while other institutions that are able to protect all credit obligations without forcing loans will get them.

What Is the Public Interest in Bank Capitalization?

The bank is not the only one to suffer from lack of capitalization. The customer is vitally interested, so vitally interested that the bank always makes a point of advertising the amount of its capital as an inducement to the customer to buy. The public, as a whole, is interested, for the further reason that banking capitalization is one of the prime factors in elasticity, both of the volume of money and of credit. Public interest in the capital equipment, therefore, may be said to be twofold:

(1) *Each individual is interested in the bank as an institution chartered to provide a convenient form of "cash."* The one who sells his note or his money to a bank in exchange for its deposit obligations does so by reason of his desire to provide himself with the current funds, in convenient form needed for his immediate uses. In establishing a banking relation he desires to deal with an institution that can safely sell sufficient credit to meet his current financial wants. For the same reason, it is his desire also to deal with a bank that at all times is able to maintain the account which he has contracted for without calling his loan or diminishing his accommodation, so long as accommodation is needed, provided he has good commercial paper to offer in exchange.

(2) *The public at large is interested in the manner in which banks are managed on account of the effect which a rapidly increasing and decreasing volume of available "cash" has on prices.* By reason of the medium of exchange being so largely in the form of bank credit instead of money, the country at large, or the combined business interests of the community and of the nation, demand that there shall not be an expansion of bank credit which cannot be supported so long as the current funding need which created the credit is present, and conversely, that there shall not be sudden contractions in the medium of exchange brought about by efforts of banks endeavoring to convert accommodations to customers into money to enable them to make deliveries on deposit obligations.

It is such a condition as this that prevails in time of panic, and these are the conditions that should be met by adequate and safe capitalization. By application of methods of research, it is entirely

possible to know whether the past emergencies could have been met if the banks of the United States had been required by law to capitalize their equipment, including their legal reserves; we would also be able to reach a scientific conclusion as to whether much of the present danger might be avoided if banking reserves were not tied up in loans to speculators "on margin."

Conclusions That Have Been Reached as a Result of Experience

As a result of the experiences of the last few decades, and of reflection on the numerous collapses suffered in institutional credit, certain conclusions have been reached that may be said to be generally accepted. These are as follows:

(1) That some provision should be made for increasing the elasticity of our currency, as well as for increasing the elasticity of bank credit.

(2) That the present law which permits the issue of bank notes was framed for the purpose of stimulating a favorable market for government bonds, and that in framing the National Bank Act no thought was had to giving elasticity, either to the currency or to bank credit.

(3) That the means employed by the government for encouraging the banks to invest in government bonds (viz., permitting them to hypothecate the bonds purchased for their par value in notes, without the payment of interest on such notes sufficient to keep them out of circulation in time when they are not needed) encourages the banks to encumber their capital to such an extent that they are unable to obtain notes from the government when needed.

(4) That the frequent and destructive panics and periods of money stringency from which business has suffered have in every instance been related to banks; that, in each stringency, the dominant demand has been a demand for money which the banks are unable to supply except at the expense of a very great contraction of commercial credit.

(5) That under the operation of the present law the only effective relief which may be given by the government to relieve money demands on the banks is through treasury "deposits."

(6) That the National Bank Act and the several state acts are defective in that they permit all the banks outside of the central reserve cities to loan their "legal reserves" and still count these

loans as reserves for meeting obligations to pay depositors, the effect of which has been, not only to permit the banks to unduly expand their credits, but, also, to make a large part of the money and credit of reserve institutions available for speculation only, thus encouraging "margin trading," during periods of low interest rates, unsettling the investment markets and endangering the whole system of commercial credits, for the protection of which the reserves are created.

Neglected Aspects of the Currency and Banking Question

While there is practical unanimity of opinion with respect to the subjects above enumerated, banking opinion has scarcely gone further than to conclude that something is wrong. Experience, especially our recent experience, points to other aspects of the currency and banking situation that have been entirely overlooked or seldom referred to in discussion. Before constructive legislation may be intelligently enacted, the following questions must be answered:

1. *What amount of elasticity must be provided for?*

The question has a double bearing, and suggests inquiry with respect to two aspects of the financial situation: (*a*) What is the variation in the business demand for money, and (*b*) what is the amount of elasticity in bank credit required to meet legitimate business demands? That no serious attempt has been made by legislators even to approximate a scientific conclusion appears from bills now pending. The limits to be placed on issue powers of banks range from $250,000,000 to not less than $2,000,000,000.

2. *What kind of protection is needed?*

A large number of bills have been brought forward at Washington to the end that the deposit obligations of banks may be insured. That this element of protection is seriously contemplated is shown by the large proportion of all the banking bills containing such provisions and the broad representation and high standing of their authors. Among them may be named Senators Raynor, Culberson, Brown, Nelson, Curtis, Gore, Scott, and Owen, and Representative Fowler. Deposit insurance will doubtless be forced by state legislation, if not by the federal law. But assuming that the deposit obligations of banks had been fully insured, would this have materially relieved business distress during the recent panic?

Assuming the average time of bank credit accommodation to be sixty days, the actuarial risk of loss amounts to about 1-120 of one per cent. Do stability of business and sane judgment require legal protection against loss from insolvency of banks so much as legal protection against the violent and dangerous expansions and contractions of bank credit? Are not the direct losses to depositors negligibly small as compared with the disasters which follow the efforts of banks to obtain money with which to protect themselves from insolvency, or from inability to maintain their own credit accounts when demand is made by other banks for settlement of balances?

3. *What are the influences which bring about dangerous expansions in credit?*

From 1904 to 1906 the expansion in deposit obligations of commercial banks of the United States amounted to about $2,000,000,000. This was the amount by which this form of cash was increased within the two years immediately before the present stress for money became seriously felt. It is not suggested that any danger lies in the mere fact of expansion, but it is now a matter of experience that this particular expansion was dangerous. It is also a matter of history that the havoc wrought by every panic that has occurred during the last half century has been the result of the contraction of a dangerous expansion of bank credit. Looking toward a proper appreciation of the influences which bring about expansion, the following questions seem pertinent. In time of financial ease, has it not been the constant effort of banks to increase their demand obligations to depositors without any regard whatever to their own capitalization? As a means to this end, and at the same time keeping within the money reserve requirements, have not the national banks in reserve cities offered interest and every known inducement to other institutions for money loans which might be carried as reserves to support a credit expansion that ultimately became dangerous?

4. *What are the incidents to credit contraction?*

Without adverting to the results of contraction of credit so disastrously felt and heroically met by the business community, the recent panic suggests the following specific inquiry. Is the financial problem which confronts the community in time of panic pri-

marily a currency question, or is it essentially one of the inability of banks to maintain a volume of credit which they had previously issued to merchants and manufacturers for use as cash in their current business? Is it not the purpose of these issues of credit to increase the profits of the bank? Have not a large part of the reserves which have been held by banks to support these increased credit issues been borrowed from other banks, instead of being provided for by capitalization? Have not money stringencies been largely due to demands created by these banks for the payment of reserve loans as a means of protecting their own customers' accounts? In these several relations the following statement of facts taken from the report of the comptroller is illuminating:

Banks.	Individual Deposits.	Money Reserves.	Percentage of Money Reserves to Deposit.	Money borrowed from Banks and the U. S. Treasury
Savings Banks	$3,495,410,087	$28,666,882	.008	$ 8,179,275
Loan and Trust Companies	2,061,623,035	104,258,066	.050	167,872,759
State Banks	3,068,649,860	254,001,570	.083	211,007,202
National Banks	4,319,035,402	701,623,532	.162	1,738,775,664
Private Banks	151,072,225	8,710,484	.058	2,844,638
	$13,095,790,609	$1,097,260,534	.084	$2,128,679,538

There are two bills now before Congress which make a clean breast of the reserve loan practice. Senator Culberson (S. 3027) would have "every national bank . . . keep on hand in its own vaults the reserve of lawful money provided by law." Senator Heyburn (S. 3044) would require that when a bank shall permit its money reserve to fall below 20 per cent it "shall not increase its liabilities by making new loans other than by discounting or purchasing bills of exchange payable at sight," and would also during such period forbid the payment of dividends. These measures would seem to be weak at two important points, viz., (1) they do not provide for the investment of reserves and the use of these investments as security for government loans or issues; (2) they do not attempt to co-ordinate reserves with capitalization, *i. e.*, under either measure the money reserves may be borrowed money.

5. *What would be the effect of the capitalization of legal reserve requirements?*

To know what amount of capital would be required to provide

for redemption equipment equal to the amount of the legal reserves required of banks (after taking out of the capital and surplus such unavailable assets as the cost of banking houses, real estate and the margins on securities deposited as collateral for issues, government deposits, bonds borrowed and other secured loans, and also after providing for the necessary working balances to provide for exchanges in other cities) would require a special inquiry on the part of the comptroller of the currency. As nearly as may be approximated, without an official inquiry, such a provision of law would add not far from $500,000,000 to the capital of national banks, as a prerequisite to incurring their present deposit obligations, and, if applied to state institutions as well, would add not far from $1,000,000,000 to the total bank capital of the country. Whatever might be the amount, would not this added capital contribute materially to give increased stability to business and increased elasticity to bank credit? Even though it add to the capital cost of bank credit, would it not be an economy to the business world? Presumably some such result was in the mind of Senator Owen when he introduced his bill (S. 3987) by which he would forbid a national bank from incurring deposit obligations in excess of ten times its capital and surplus. He would also limit speculative loans to the amount of a bank's capital and surplus (S. 3986). In view of the known facts, however, these measures would be of no practical effect. The ratio of capitalization to deposit obligations has been reduced two-fifths since 1896. Should not immediate steps be taken to make the foundation of our credit safe, and provide for adequate expansion without endangering the public?

6. *Is it either safe or expedient to have a large volume of bank notes permanently outstanding?*

For two decades the banking interests fought against the continued use of greenbacks. The result of the agitation was a compromise limiting the form of credit money to $346,000,000. During the last few years the bank note circulation permanently outstanding has been increased over $400,000,000. In this relation the question may be raised as to whether Gresham's law does not operate on permanent issues of bank notes as well as on greenbacks. Have we not in recent legislation and practice with respect to bank notes employed a form of money that is cheaper to the banks than greenbacks? Have we not in the volume of bank notes permanently

outstanding a monetary device more dangerous than greenbacks, for the reason that they not only drive gold and silver out of the country, but at the same time encumber the banking capital, by means of which gold and silver might be brought into the country when such a need is felt. In the legislation now before Congress few measures have any regard for this situation. The bills of Senators Knox (S. 1239), Raynor (S. 2954), Aldrich (S. 3023), and Owen (S. 3988) follow the recommendation of the President, viz., that the bank note currency should be taxed sufficiently to make it an emergency currency. Senator Knox would tax all issues secured by United States bonds at five per cent and all issues having other collateral security seven per cent. This is subject to the criticism that such a tax imposed, without refunding the national debt, would at once operate to reduce the price of United States bonds, and therefore would amount to confiscation of the premium. Senator Aldrich has met this moral question by providing that the tax on issues against United States bonds remain practically as at present, but would impose a tax of six per cent on all other issues. His measure, however, becomes practically ineffective in that it makes no provision reducing the permanent bank note circulation; in fact, by the terms of his bill, the permanent note circulation might be increased, and it specifically provides that all banks may thus encumber 50 per cent of their capital and surplus. Senators Raynor and Owen would impose six per cent during the first four months of issue and eight per cent thereafter, permitting any security to be accepted that may be approved by the Secretary of the Treasury.

7. Should government funds be used to give more than temporary relief?

In this relation it is to be conceded that bank notes are nothing more nor less than loans of government money to the banks without interest. The government loans unsigned notes to the bank for issue in exchange for a collaterally secured obligation of like amount to the government. Unquestionably government "deposits" stand in the category of collateral loans without interest. Having this fact in mind, the question is fairly presented: when business interests are endangered by reason of the inability of banks to maintain the volume of credit needed, should government loans be looked to to give more than temporary relief? Do not loans by the gov-

ernment without interest, or at a low interest rate, cause the banks to rely on "deposits" instead of their own capital? Will not such a practice cause the banks to retain these loans when not needed, unless the government arbitrarily enforces payment against their wishes? Do not deposits, without a rate of interest which will cause the banks to repay the loans as soon as an emergency is passed, leave the whole situation subject to the discretion of public officials, instead of making regulation automatic? Does not a large volume of government deposits or loans without interest to the banks, weaken instead of strengthen the credit situation, and leave the banks without the possibility of obtaining collateral aid when a new emergency arises?

8. *Is a "great central bank" a better institution to give collateral support to our banks than the treasury?*

The large bank idea has taken two distinct forms, one as expressed in Senator Hansborough's bill (S. 547), giving to an institution controlled by other banks the widest banking powers, both of loan and deposit, and the other as expressed in Congressman Frones' bill (H. R. 13,845), giving to a government controlled institution, with capital of $100,000,000, powers of issue only—all issues over $100,000,000 to be taxed on a graduated scale of from six per cent to ten per cent per annum, thus making the issues in excess of capital an emergency circulation. Assuming that a large permanent issue of bank notes is not a good business expedient, and narrowing this part of the problem down to a choice between a great bank and the United States Treasury, in case the funds of the United States Treasury were not permanently loaned to banks, may not the United States Treasury do all that it would be safe for a great central bank to do? In case the funds of the government were loaned or deposited with a central bank, would they not operate on the financial system in the same manner as if loaned to other banks? Having in mind the arguments of prominent bankers, the further question may be asked: Does the cumulation of a treasury surplus operate to deprive the business of the country of the use of money held by the government, or is this surplus drawn from the money stock of the world, thus increasing the money stock of the United States? If the conclusion is reached that it does operate to increase the money stock of the United States, with adequate money reserves maintained by the banks, may not a

treasury surplus be held with advantage as an emergency fund for any use to which it might be applied, thus placing the United States in a stronger position financially than any other nation—a situation which might go far to relieve this country from the incidents of falling markets and failing credit abroad? Would not legislation which would permanently encumber or tend to encumber the government surplus or lower the capital strength of the banks, operate to make this country still more dependent on foreign states, and to relinquish a financial advantage which by nature and trade position it enjoys?

What the Federal Government May Do to Correct the Evils of State Banking Legislation

One of the prime elements of weakness in our credit situation—one that has done much to unsettle business and cause violent expansions and contractions of credit—has been the laws of states permitting banks and trust companies to organize and do business without adequate capitalization, or even the indirect restraint on over issues of credit imposed through reserve requirements. Among the worst institutional offenders have been trust companies. These corporations have been strictly controlled so far as the initial capital security given to trust estates and trust obligations are concerned, but in their banking and common credit relations they have so conducted themselves as to rank them with institutions that, in 1837, would have been called "wildcat" banks. That is to say, their capital has been largely for the protection of trusts; they have also been permitted to do a banking business; for this banking business no separate or extra capitalization has been required; having their capital largely tied up in security deposits with state authorities, they have been permitted to incur obligations to depositors without even the money-reserve requirements imposed on state banks; when similar money reserves are required, they have been permitted to borrow them instead of being required to furnish them out of their own capital; in fact the laws specifically permit a portion to be in the form of loans to other institutions, enabling them to carry mutual loans in lieu of money reserves, a fault which attaches to state banks as well as to trust companies. They have also been permitted to engage in underwriting and other practices,

from which national banking institutions, on grounds of public policy, have been debarred.

The net result of such privileges has been:

(1) To force on national banks larger capital cost than is required of state institutions.

(2) To enable the state banks and trust companies to offer to customers interest on their own deposit obligations as an inducement to purchase their credit, in some instances as high as 4 or 5 per cent being paid on their deposit liabilities.

(3) While they are thus stealing the customers of national banks they have been in a position to force them to carry the money reserves on which the trust companies relied in time of emergency to support their own credit.

By reason of these laws and the more favorable conditions for profitable employment of capital, the state banks and trust companies have been making large inroads on the business of national banks. The following summary of individual deposits from New York City and Brooklyn is taken from the last report of the Comptroller of the Currency:

Banks.	Individual deposits. 1906. Millions.	1907. Millions.	Increase. Millions.	Decrease. Millions.
National banks	653.3	600.8	....	52.5
State banks	323.7	336.9	13.2	....
Savings banks	925.1	962.6	37.5	....
Loan trust companies	790.8	840.4	58.6	....
	2,692.9		109.3	

While the state institutions have been gradually taking the business of national banks, two-thirds of the entire money reserves are carried by national banks:

Banks	Money Reserves 1906. Millions.	Money Reserves 1907. Millions.
National banks	227.5	234.6
State banks	54.6	65.9
Savings banks	6.4	6.4
Loan trust companies	33.4	56.8

The wisdom of attempting to directly control the banking legislation of states may be questioned. There can be no question,

however, about the wisdom of making conditions so favorable to national banks which are doing business in a manner to protect the community that they can succeed. To this end, one of the points of attack would be the present reserve law; another would be to refuse to permit a national bank to receive deposits or in any manner to become directly indebted to or to do other than a collection business with an institution having inferior capital requirements; again, by permitting national banks to increase their circulation on collateral security *ad libitum*, as well as to procure collateral loans from the United States Treasury in the form of deposits, upon the payment of 5 or 6 per cent, the credit accounts to customers of national banking institutions might always be protected. If state banks and trust companies were required to carry their own reserves, do their own clearing, support their own credit, and the collateral aid of the United States Treasury were limited to the national banking system, both the national bank customer and the bank itself would soon recognize the advantage of compliance with laws for the safe conduct of business.